

LXI.—On an Upper Incisor of *Nototherium Mitchellii*.

By Professor R. OWEN, F.R.S.

[Plate XVI.]

To the Editors of the Annals and Magazine of Natural History.

GENTLEMEN,

I have received, through the kindness of Sir Daniel Cooper, Bart., from the freshwater beds of Gowrie Creek, Darling Downs, Queensland, an upper front incisor, right side, of the *Nototherium Mitchellii* (Pl. XVI.), which so closely accords in size with the dimensions of the tooth described and figured in the December Number of your volume xvi. (1865) p. 448, by Prof. M'Coy, that I am disposed to ascribe that tooth also to the species near the remains of which it was found, "at Murchill, not far from Geelong, Victoria."

My specimen is 5 inches 1 line long in a straight line, 1 inch $7\frac{1}{2}$ lines in the greatest (fore-and-aft) diameter, which is about the middle of the root; 10 lines in greatest transverse diameter. The enamelled crown, *e*, is 1 inch in length, bevelled off, chiselwise, from before downward and backward, and shows the partial application of enamel usual in such teeth; the free margin on the outer side of the crown (fig. 4) extends further back than that on the inner side (fig. 1 *e*), and is slightly everted: it is also thicker than the even inner border. The breadth of the unenamelled back part of the crown (figs. 1, 3, 4 *d*) at its base is $6\frac{1}{2}$ lines: owing to the difference in extent of enamel on the sides of the crown, the abraded surface slopes from without inward and backward, as well as from above downward and backward. The enamel is $\frac{1}{4}$ of a line in thickness at the outer side of the crown: the whole outer surface is smooth. The crown is broadly convex anteriorly, rather flatter on the inner than on the outer side. The root is more thickly covered by cement, and increases in every dimension, chiefly from before backwards, as it recedes from the crown, until at a little below its midlength it attains the dimensions above given: it then diminishes to the pulp end. The outer side begins to be impressed by a longitudinal shallow channel about an inch and a half below the crown; and this channel increases in breadth, but not in depth, becoming, indeed, shallower near the pulp end of the root. On the inner side, the longitudinal channel begins somewhat nearer the crown, and sinks deeper as it recedes, besides becoming wider. The tooth is "compressed and gently incurved," or, rather, "recurved," the front margin describing a greater convexity, lengthwise, than the hind margin: the root

contracts to an antero-posterior diameter of 1 inch 3 lines, and a transverse diameter of $4\frac{1}{2}$ lines, at the end of which it is excavated by the shallow remnant of the pulp-cavity (fig. 6). The breadth here, owing to the opposite lateral channels, is least at the middle of this end, where it contracts to 3 lines; the part anterior to this gives the breadth of $4\frac{1}{2}$ lines. Thus the present tooth is less "fusiform" than Prof. M'Coy's specimen, which may be due to its having come from a less-aged individual. The Professor's description of the "crown, worn down obliquely almost to the base, only about an inch of it remaining," applies, however, equally to my specimen. The cement-covered outer surface of the root is marked by the same "short, irregular, interrupted longitudinal grooves," with intervening ridges about a line in breadth.

The difference between the Professor's specimen and the homologous tooth of *Thylacoleo carnifex* is, first, in dimensions. The figure given at p. 448, *loc. cit.*, is reduced to nearly half the natural size of the tooth there described, and of the Professor's original "pen-and-ink sketch;" and a notice of such reduction in the woodcut has been omitted. As it stands, it nearly represents the natural size of the upper front incisor of *Thylacoleo carnifex*, the root of which is about 2 inches in length, and 10 lines in greatest breadth. But the crown is relatively longer, the enamel is twice as thick, and its free end is not bevelled off chiselwise, as in Professor M'Coy's specimen and in mine of *Nototherium Mitchellii*.

Reduction of figures of single or detached teeth should, if possible, be avoided: it detracts much from the facility of comparison. The figures of the tooth here described are of the natural size.

I may add that the tooth supposed to be a canine of *Thylacoleo* is shown to be an incisor, in my second memoir on that genus in the Philosophical Transactions for 1866.

I am, Gentlemen,

Yours faithfully,

RICHARD OWEN.
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EXPLANATION OF PLATE XVI.

Fig. 1. Side view of anterior incisor, right side, upper jaw, of *Nototherium Mitchellii*.

Fig. 2. Back view.

Fig. 3. End view of crown.

Fig. 4. Outer-side view of crown.

Fig. 5. Section of middle of root.

Fig. 6. Free extremity of root.